

SUPPORT FOR THE AMENDMENT

Support for the amendment to claim 16 is found in claim 17 as originally presented. No new matter would be added to this application by entry of this amendment. No new issues would be raised before the examiner as applicants have merely introduced the limitations of an existing dependent claim, into the independent claim. Entry of applicants' amendment and full consideration thereof at this stage of prosecution is respectfully requested.

Upon entry of this amendment, claims 1-2 and 4-16 will now be active in this application.

### REQUEST FOR RECONSIDERATION

The claimed invention is directed to a graft polyol having a bimodal particle size distribution, a method for preparing a graft polyol as well as a polyurethane comprising the same.

Applicants wish to thank examiner Cooney for the helpful and courteous discussion held with their U.S. representative on July 29, 2008. At that time, applicants' U.S. representative noted the details of Dr. Freidank's declaration concluding that the phrase "the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap" was clear for the person skilled in the art. The following is intended to expand upon the discussion with the examiner.

Graft polyols have been used in the preparation of polyurethane foams to increase the hardness of the resulting polyurethane foam. Graft polyol addition can have an adverse effect on cell opening behavior and flow behavior in the foam mold such that graft polyol containing polyurethanes having good cell opening behavior and flow behavior are sought.

The claimed invention addresses the problem by providing a graft polyol comprising small particles and large particles having a **bimodal particle size distribution**. Applicants have discovered that a graft polyol having a bimodal particle size distribution in which the **peaks do not overlap** having a small particle and large particle distribution as claimed, provides for advantageous properties when incorporated into a polyurethane composition. Such a graft polyol is nowhere disclosed or suggested in the cited prior art of record.

The rejections of claims 1, 2 and 4-17 under 35 U.S.C. 112, second paragraph and of claims 16 and 17 under 35 U.S.C. 112, second paragraph are respectfully traversed.

Applicants respectfully submit that the metes and bounds of the term “peaks....do not overlap” are clear to those of ordinary skill in the art.

As evidence that the term “do not overlap” would be well understood by those of ordinary skill in the art, applicants have previously submitted the declaration of Dr. Daniel Freidank, a researcher for BASF, the assignee of the above-identified application. The examiner interview summary record of August 4, 2008 has noted that the Freidank declaration of February 26, 2008 was not dated and for that reason, not proper. Applicants note that there is no requirement that a declaration submitted under 37 C.F.R. §1.132 be dated. Moreover, the averments under 37 C.F.R. §1.68 are provided. Further, based on the date of the submission and the reference to his earlier declaration submitted July 19, 2007, the date of signature can be determined to be within this time frame. The declaration is not improper because of the absence of a signature date. None the less, applicants submit herewith a further declaration from Dr. Freidank, which indicates a date of signature. This declaration does not suffer from the deficiency previously identified by the examiner.

Dr. Freidank has been a researcher in the field of polyurethane research and development since 2003. Dr. Freidank has previously supplied an evidentiary declaration on July 26, 2007.

Dr. Freidank provides **his opinion**, that the phrase “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” means that the data measured between the peaks are below the background-noise, or, with other words, between the peaks is an area of measurements not larger as the background-noise.

Dr. Freidank further opines that polarization intensity differential scattering is an established method for determining the particle size in the range of the graft polyols claimed

and that the Laser Diffraction Particle Size Analyzer LS 230 is commonly used for these measurements.

**Dr. Freidank concludes** in the penultimate paragraph on page 2 of his declaration that the phrase “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” **is clear for the person skilled in the art.**

Thus, applicants have provided **evidence** in the form of the opinion declaration of Dr. Daniel Freidank that the claim term “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” is clear for the person skilled in the art.

Page 3 of the official action argues that “The claims do not reflect the test conditions referred to by applicants’ arguments and declaration.” Applicants note that claims 1 and 16 as amended each recite

“the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap”

wherein, Dr. Freidank concludes that the phrase “that the peaks of the large and small particles measured by the Fraunhofer diffraction method in combination with polarization intensity differential scattering do not overlap” is clear for the person skilled in the art. Any differences between the claim language and the term opined to by Dr. Freidank are insignificant.

While the examiner has expressed his confusion as to the meaning of the term based on his inability to determine when a peak begins or ends, such confusion does not render the claim indefinite, as Dr. Freidank has opined that the term is clear for the person skilled in the art. The Freidank declaration is offered as evidence that the claim term is not indefinite.

Furthermore, the examiner has provided no reasoning or evidence as to why it is necessary to determine when a peak begins or ends in order to understand the metes and bounds of the claims.

As to the rejection of claims 16 and 17, Dr. Freidank's declaration opines that polarization intensity differential scattering is an established method for determining particle size and that the Laser Diffraction Particle Size Analyzer LS 230 is commonly used for these measurements. As such the metes and bounds of claim 17 which recites the use of specific light scattering methods are clear to those of ordinary skill in the art.

Withdrawal of the rejections under 35 U.S.C. 112, § second paragraph is respectfully requested.

The rejection of claims 1, 2 and 4-17 under 35 U.S.C. § 103(a) over EP 786,480 in view of Perry et al. (U.S. 6,127,443) is respectfully traversed.

None of the cited art of record discloses or suggests a graft polyol having a bimodal particle size distribution **in which the peaks of the large and small particles do not overlap.**

EP '480 merely describes a polymer polyol having a relatively small and having a **narrow particle size distribution** (page 1, lines 3-5 and page 3, lines 2-7). In describing a polymer polyol having a small particle size and a narrow particle size distribution, there is no suggestion of a graft polyol having a bimodal particle size distribution in which the peaks do not overlap. A bimodal particle size distribution is not a narrow particle size distribution.

Perry et al. merely describes a polyol component which is **at least bicompositional** having at least one high **molecular weight** portion and one low **molecular weight** portion (column 3, lines 17-19). The molecular weight is a characterization of the length of the polymer chains of the polymer and says nothing about the particle size of polymer particles.

There is no disclosure in this reference as to a bimodal **particle size** distribution in which the peaks do not overlap.

A recitation of a **bicompositional** composition is not a suggestion of a **bimodal** particle size distribution. The term bicompositional refers to the qualitative nature of the composition components such that there are components of **two different compositions**. A bimodal particle size describes the average particle size of the particles of the composition such that there are two peaks, describing the **particle size distribution**. Differences in composition do not suggest differences in particle size distribution.

Moreover, even if Perry et al. were to have described a bimodal particle size distribution, there is no motivation to modify the polymer polyol of EP '480 to provide a bimodal distribution as to do so would be contrary to the express teachings of EP '480.

EP '480 describes a polymer polyol having a small particle size and a **narrow particle size distribution**. A narrow particle size distribution is a statement as to the desirability of uniform properties for the polymer particles. A bimodal particle size is inconsistent with a narrow particle size distribution as a bimodal particle size has two particle size distributions and therefore is nearly the opposite of a narrow particles size distribution. It would not be possible to modify the disclosure of EP '480 and provide a bimodal particle size distribution as to do so would destroy the essential teachings of the primary references. Obvious modifications can not fly in the face of the express disclosure of the reference. As such the combination of cited references does not make obvious a graft polyol having a bimodal particle size distribution.

In contrast, the claimed invention is directed to a graft polyol having small and large particles having a bimodal particle size distribution in which the peaks of the large and small particles do not overlap.

The paragraph bridging pages 7-8 of the official action “holds” but without any evidence, that a bicompositional composition from two different components with each component having different and independent narrow particle size distributions, was within the level of skill of those of ordinary skill in the art, from operating within the teachings of the combined prior art in order to arrive at the products and processes of applicants’ claims.

Such a holding insufficient to establish a *prima facie* case of obviousness.

A statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).  
\*\*\*>[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at \_\_\_, 82 USPQ2d at 1396 quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).<M.P.E.P. § 2143.01 IV

Not only is such a holding insufficient to establish a *prima facie* case of obviousness, but such a holding is simply not supported by the evidence of record.

While the examiner asserts that a blend of polymers is suggestive of a bimodal particle size distribution, applicants again remind the examiner that the secondary reference suggests the use of two polymer **compositions**, **not** two polymers having different **particle size distributions**. Moreover by combining the teachings of the two references, one would use two polymers **of the same particle size distribution**, providing a bicompositional polyol having a **narrow particle size distribution**.

Further more, a narrow particle size distribution is demonstrated in EP ‘460 as a factor in providing an desired low viscosity. Table 1, on page 7 demonstrates a significantly better viscosity when the particle size span is only 0.85  $\mu\text{m}$  (example 1) as compared to when the particle size span is 1.74  $\mu\text{m}$  (Comp. Ex. 1). Such a dichotomy is also demonstrated in Table

2, page 8 in which a significantly better viscosity when the particle size span is only 0.88  $\mu\text{m}$  (example 2) as compared to when the particle size span is 1.41  $\mu\text{m}$  (Comp. Ex.2). Thus, deviations from a narrow particle size distribution has been demonstrated to be less desirable than a narrow particle size distribution. Clearly the combination of two different particle size distributions would produce a composition having a broader particle size distribution than the described “narrow particle size distribution” of EP ‘480. Such a combination is contrary to the essential disclosure of EP ‘460 in providing a low viscosity composition.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

The evidence of record contradicts the examiner’s conclusion as to motivation to combine the teachings for the two references.

Even if one were to combine the discloser of the cited references there is still no suggestion of providing a polyol in which the peaks of the large and small particles **do not overlap**. At best the office action has provided references which describe a narrow particle size distribution as well as a bicompositional composition. The combined disclosure would suggest a composition in which the particles for the two compositions would overlap completely, resulting in a narrow particle size distribution. As noted above, a narrow particle size distribution was demonstrated as essential to providing uniformity and a low viscosity. None the less, assuming that there were any suggestion to have two particle size distributions, there is no suggestion that the peaks of the two distributions would **not overlap**. There is simply no evidence cited in the official action to provide two distributions in which the peaks do not overlap.

As the combined teachings of the cited prior art fails to disclose or suggest a bimodal particle size distribution in which the peaks do not overlap, the claimed invention is clearly



not obvious from these references and accordingly withdrawal of the rejections under 35  
U.S.C. § 103(a) is respectfully requested.

Applicants submit that this application is now in condition for allowance and early  
notification of such action is earnestly solicited.

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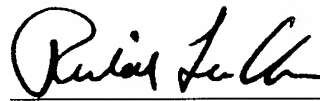
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Respectfully submitted,

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